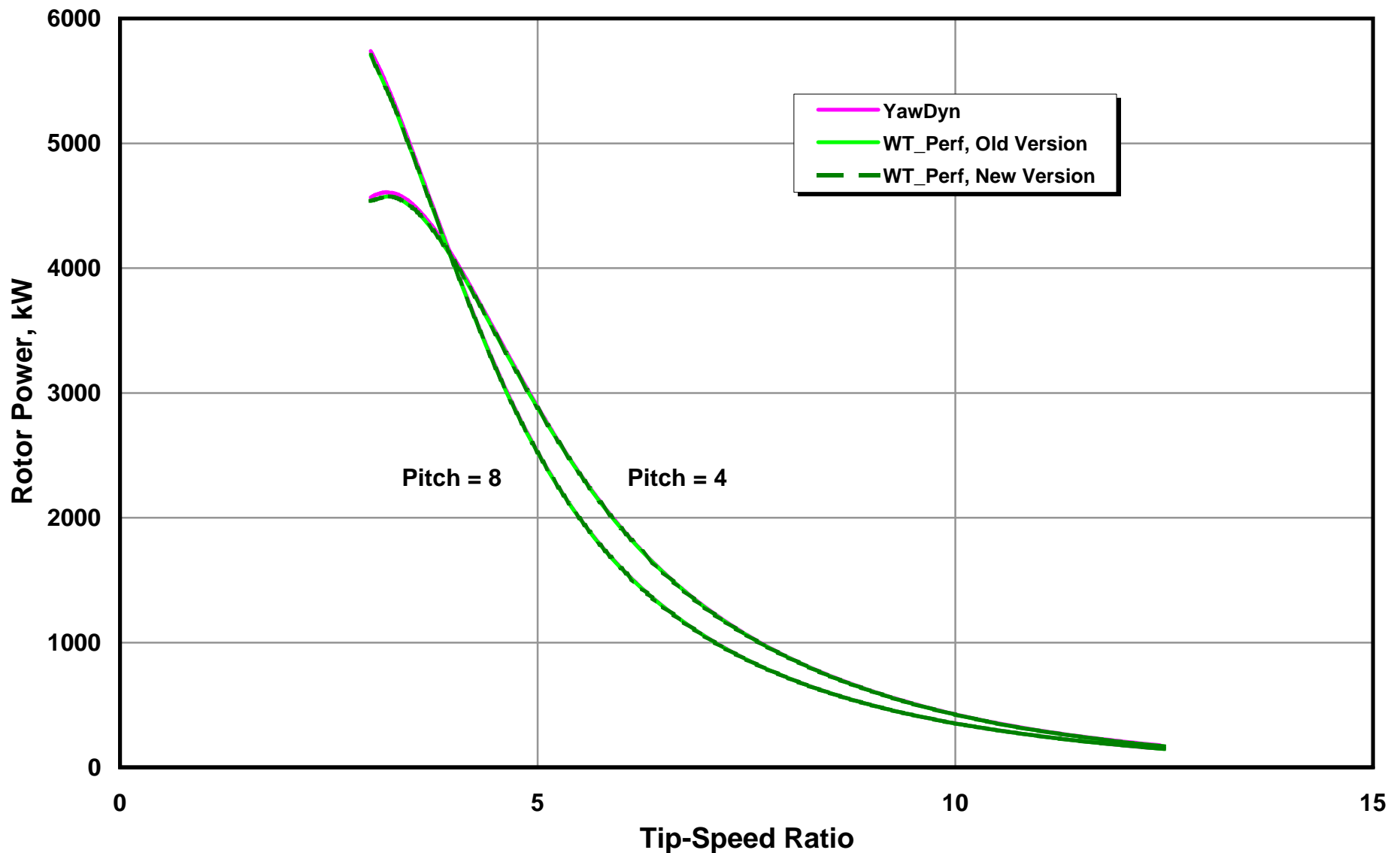# WT_Perf Certification Test #4

Rotor Power for Pitch = 4, 8

WindPACT 1.5 MW Turbine, 5° Tilt

Dimensional Input, SI Units, PROP-PC Algorithm for WT_Perf

Legend:
- YawDyn
- WT_Perf, Old Version
- WT_Perf, New Version

Pitch = 8   Pitch = 4

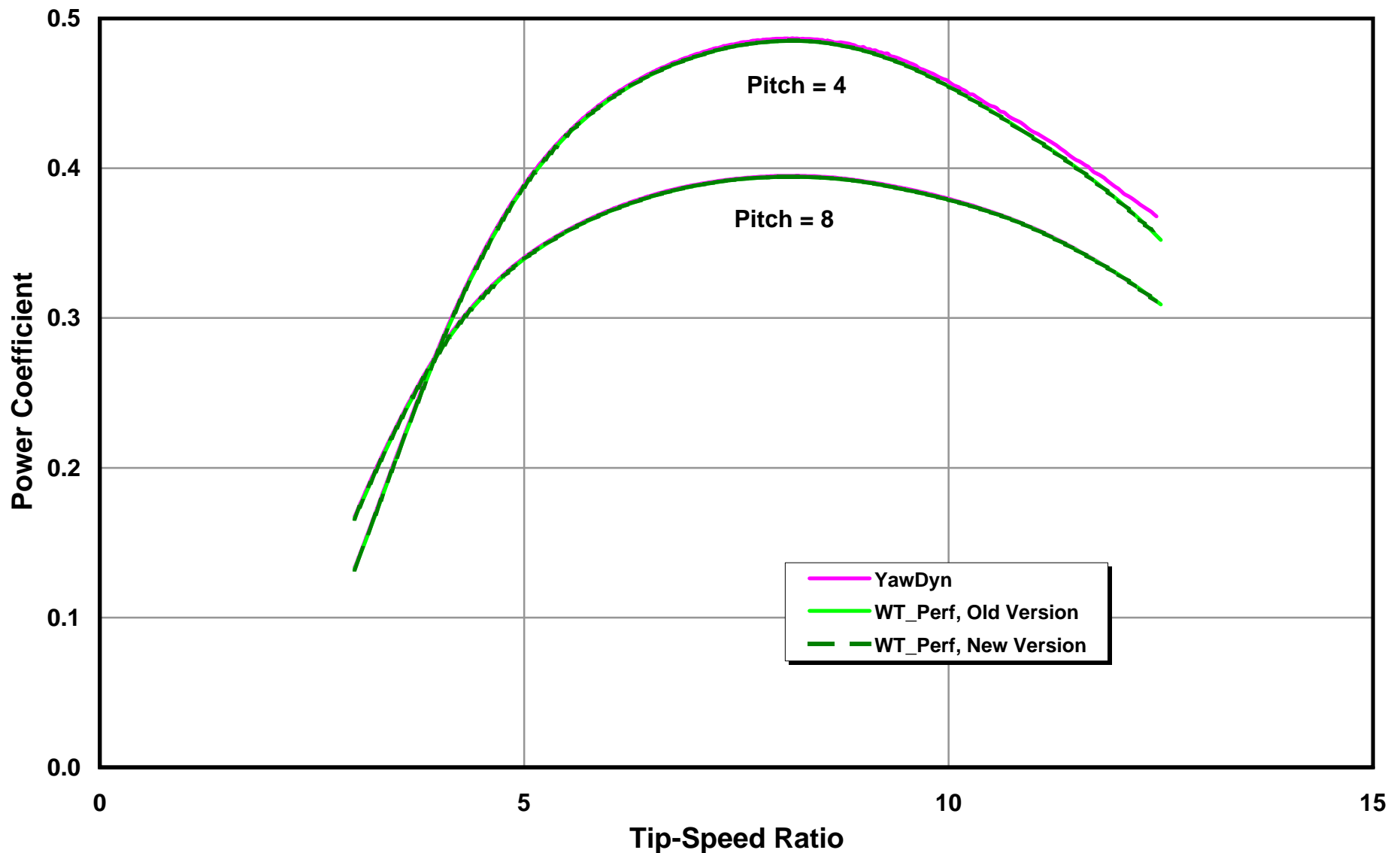Axis labels: Rotor Power, kW (vertical, 0 to 6000); Tip-Speed Ratio (horizontal, 0 to 15)

WT_Perf Certification Test #4
Power Coefficient for Pitch = 4, 8
WindPACT 1.5 MW Turbine, 5° Tilt
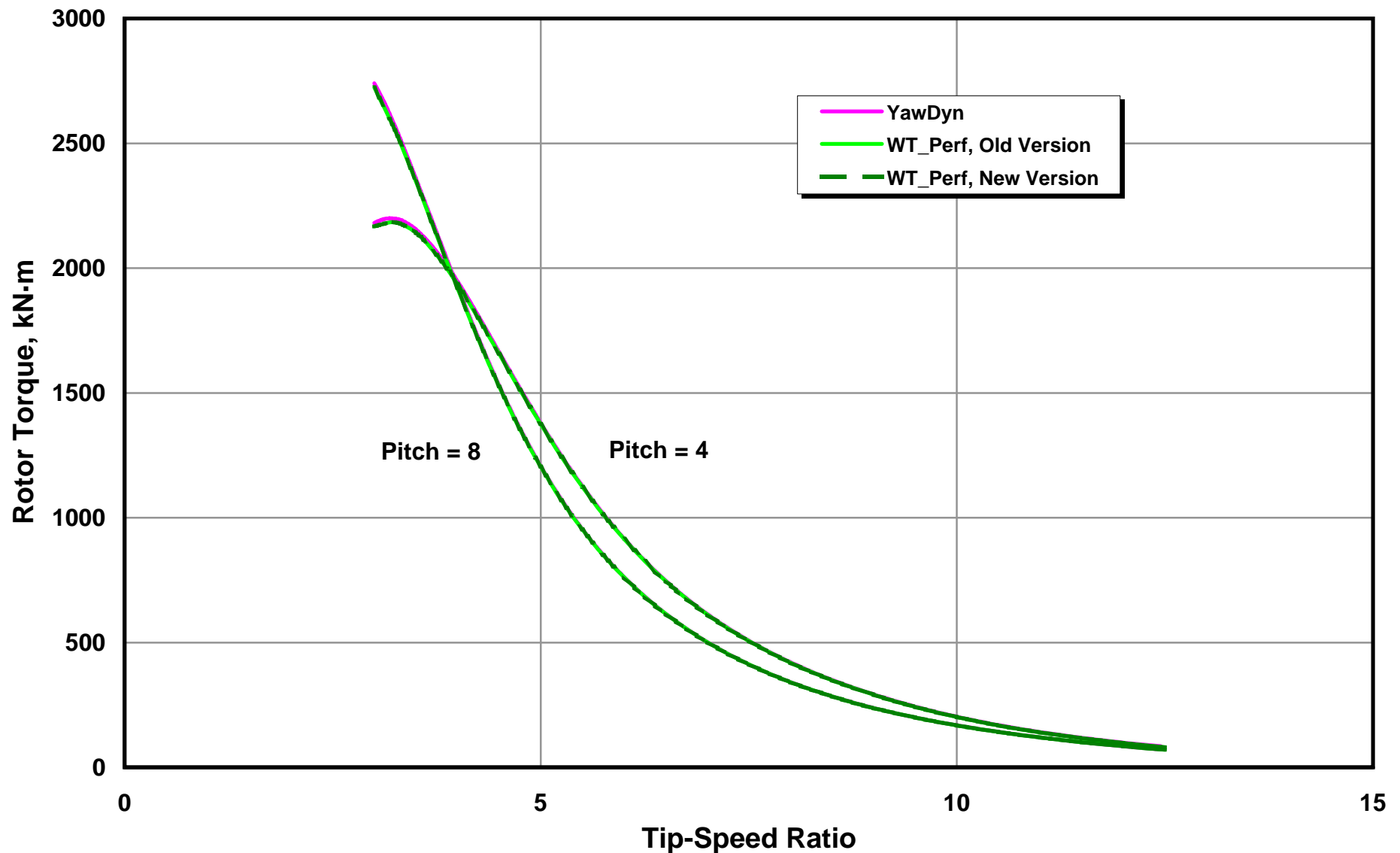**Dimensional Input, SI Units, PROP-PC Algorithm for WT_Perf**

Pitch = 4

Pitch = 8

Power Coefficient

Tip-Speed Ratio

— YawDyn
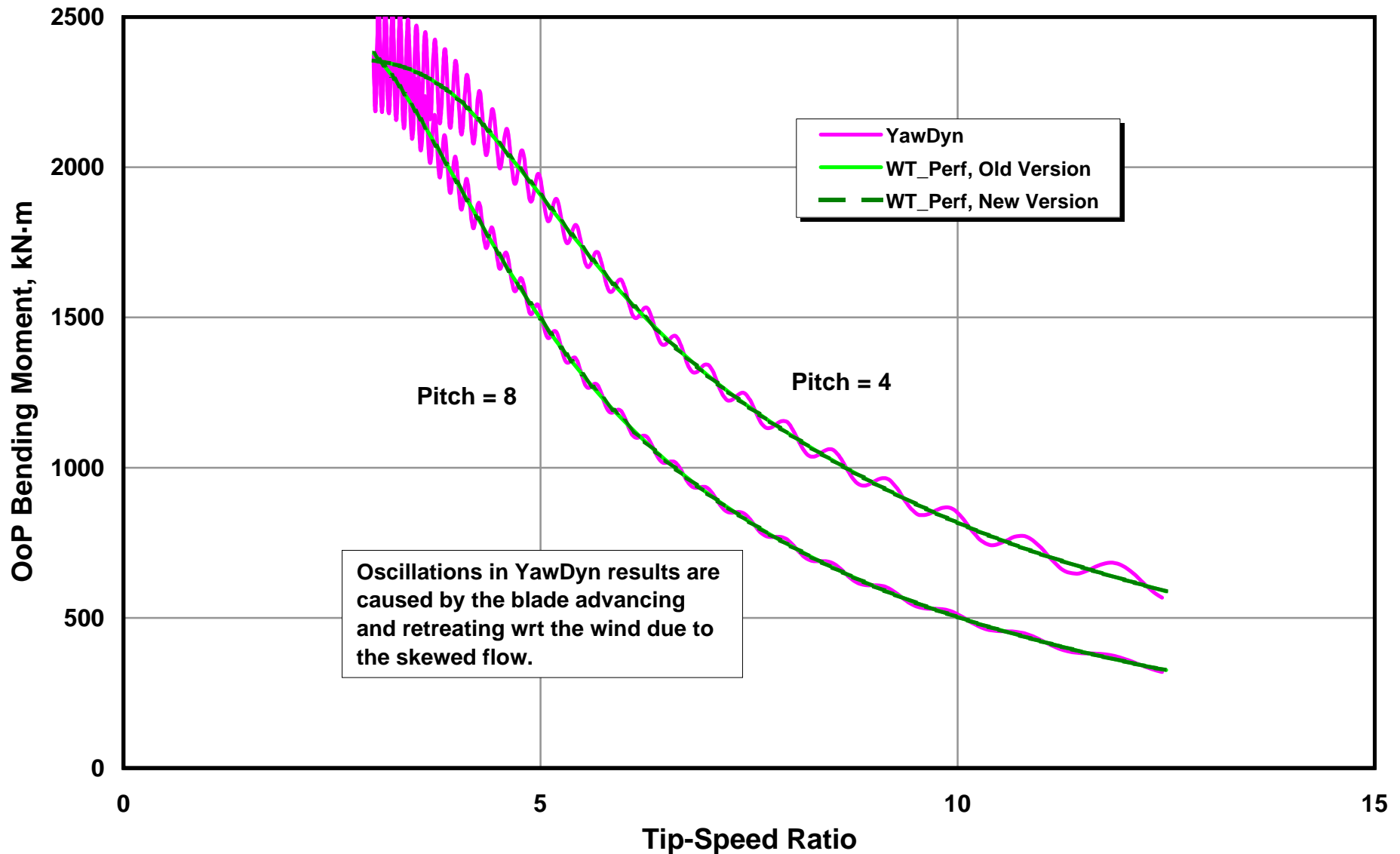— WT_Perf, Old Version
– – WT_Perf, New Version

WT_Perf Certification Test #4
Aerodynamic OoP Bending Moment for Pitch = 4, 8
WindPACT 1.5 MW Turbine, 5° Tilt
Dimensional Input, SI Units, PROP-PC Algorithm for WT_Perf

Legend:
- YawDyn
- WT_Perf, Old Version
- WT_Perf, New Version

Pitch = 8

Pitch = 4

Oscillations in YawDyn results are caused by the blade advancing and retreating wrt the wind due to the skewed flow.

Y-axis: OoP Bending Moment, kN·m (0, 500, 1000, 1500, 2000, 2500)

X-axis: Tip-Speed Ratio (0, 5, 10, 15)

WT_Perf Certification Test #4
Rotor Thrust for Pitch = 4, 8
WindPACT 1.5 MW Turbine, 5° Tilt
Dimensional Input, SI Units, PROP-PC Algorithm for WT_Perf

Legend:
- YawDyn
- WT_Perf, Old Version
- WT_Perf, New Version

Pitch = 8   Pitch = 4

Y-axis: Rotor Thrust, kN (0, 100, 200, 300, 400)
X-axis: Tip-Speed Ratio (0, 5, 10, 15)